### (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

### (19) World Intellectual Property Organization

International Bureau



## 

#### (43) International Publication Date 6 January 2005 (06.01.2005)

#### (10) International Publication Number WO 2005/000902 A1

(51) International Patent Classification7: 16/00, 14/21

C07K 19/00,

(21) International Application Number:

PCT/KR2004/001595

(22) International Filing Date: 30 June 2004 (30.06.2004)

(25) Filing Language:

Korean

(26) Publication Language:

English

(30) Priority Data: 10-2003-0043599

30 June 2003 (30.06.2003)

(71) Applicant and

(72) Inventor: CHOE, Mu-Hyeon [KR/KR]; 15-1205, Dongsung 3 cha Apt., Sinnae 1-dong, Jungnang-gu, Seoul 131-131 (KR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): CHOI, Seong-Hyeok [KR/KR]; 769, Sanjeong-ri 3-gu, Sinpung-myeon, Gongju-si, Chungcheongnam-do 314-882 (KR). LEE, Yong-Chan [KR/KR]; 138, Eumnae-dong, Seosan-si, Chungcheongnam-do 356-805 (KR). KWON, Hye-Won [KR/KR]; 101-1101 Samho Apt., Sangdo 5-dong, Dongjak-gu, Seoul 156-030 (KR). WON, Jae-Seon [KR/KR]; 1-164, Bugahyeon 3-dong, Seodaemun-gu, Seoul 120-193 (KR). YU, Mi-Hyun [KR/KR]; 101-1001, Mokdong 2-cha Samsungraemian, Sinjeong 7-dong, Yangcheon-gu, Seoul 158-077 (KR). SONG, Jeong-Hwa [KR/KR]; A-205, Daewun villa, 171-3,

Bangbae 1-dong, Seocho-gu, Seoul 137-061 (KR). KIM, Yong-Jae [KR/KR]; 104-1504, Yangjidaerim Apt., Junggye-dong, Nowon-gu, Seoul 139-923 (KR).

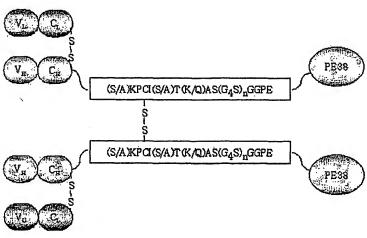
- (74) Agent: LEE, Duck-Rog; YEiL Patent & Trademark International, YEiLPAT Bldg., Yorksam-dong, Kangnam-ku, Seoul 135-915 (KR).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI. FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

#### Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

[Continued on next page]

(54) Title: THE DIMER OF CHIMERIC RECOMBINANT BINDING DOMAIN-FUNCTIONAL GROUP FUSION FORMED VIA DISULFIDE-BOND-BRIDGE AND THE PROCESSES FOR PRODUCING THE SAME



(57) Abstract: The present invention relates to a method producing dimer of chimeric recombinant binding domain-heterogeneous functional group fusion ([B-F fusion]2) by using covalent disulfide-bond-bridge connecting the two monomers of chimeric recombinant binding domain-heterogeneous functional group fusion (B-F fusion). The dimer chimeric recombinant binding domain(B)-heterogeneous functional group(F) fusion was the first to be formed by using covalent disulfide-bond-bridge to monomers to have double binding valency of the monomer. It has higher functional efficiency to its targets and the production yield is high by containing said extension peptide

WO 2005/000902 A1

chain.

# WO 2005/000902 A1



with sequence listing part of description published separately in electronic form and available upon request from the International Bureau For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.